

## ABSTRACT

An optical storage device and method of operating that device are disclosed. The device includes an optical storage medium, and a light source capable of generating light that is transmitted to the medium. The light generated by the light source is at a first wavelength that is within the vacuum ultraviolet region of the electromagnetic spectrum and satisfies at least one of the following criteria: (i) the wavelength is within a 1.0 nm-wide window in the vacuum ultraviolet region of the electromagnetic spectrum at which a local minimum in the absorption coefficient of Oxygen ( $O_2$ ) occurs; and (ii) the absorption coefficient of Oxygen ( $O_2$ ) at standard temperature and pressure that corresponds to the wavelength is less than  $25 \text{ atm}^{-1} \text{ cm}^{-1}$ . In one embodiment, the light is at approximately 121.6 nm, and the light source is a gas discharge light source that produces light at the Hydrogen Lyman- $\alpha$  line.

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